

Physics 11 – Term 2 Extra Credit Assignment

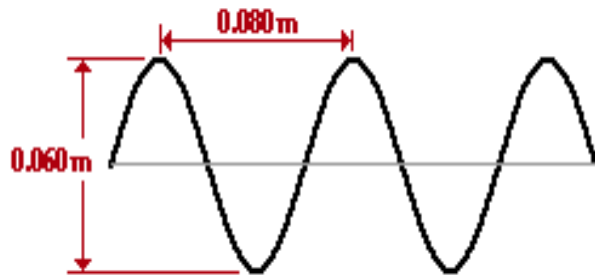
Name: _____

Period: _____

Please answer the following questions and hand-in/email to Ms. Sugar before the end of the school day (3:03pm) March 31.

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- 1) A single disturbance that moves from point to point through a medium is called a
a) period b) periodic wave c) wavelength d) pulse
 - 2) A continuous, constant rate disturbance in a medium is called a
a) period b) periodic wave c) wavelength d) pulse
 - 3) If the particles of the medium are vibrating to and fro in the same direction of energy transport, then the wave is a _____ wave.
a) longitudinal b) sound c) standing d) transverse
 - 4) When the particles of a medium are vibrating at right angles to the direction of energy transport, then the wave is a _____ wave.
a) longitudinal b) sound c) standing d) transverse
 - 5) If the energy in a longitudinal wave travels from south to north, the particles of the medium would be vibrating _____.
a) both east and west
b) both north and south
c) north, south, east and west
 - 6) If the energy in a transverse wave travels from south to north, the particles of the medium would be vibrating _____.
a) both east and west
b) both north and south
c) north, south, east and west
 - 7) If the energy in a surface wave travels from south to north, the particles of the medium would be vibrating _____.
a) both east and west
b) both north and south
c) north, south, east and west
 - 8) As a pulse travels through a uniform medium, the speed of the pulse _____.
a) decreases
b) increases
c) remains the same

- 9) The main factor that affects the speed of a sound wave is the
- amplitude
 - intensity of the sound
 - loudness of the sound
 - properties of the medium
 - pitch of the sound
- 10) Pitch of a sound is determined by _____
- amplitude
 - frequency
 - wave speed
 - wavelength
- 11) Loudness of a sound is determined by _____
- amplitude
 - frequency
 - wave speed
 - wavelength
- 12) As a wave passes across a boundary into a new medium, which characteristic of the wave would NOT change?
- speed
 - frequency
 - wavelength
- 13)
- What is the amplitude of the wave below? _____
 - What is the wavelength of the wave below? _____
 - How many complete waves are shown in the diagram? _____



- 14) A periodic and repeating disturbance in a lake creates waves which emanate outward from its source to produce circular wave patterns. If the frequency of the source is 2.00 Hz and the wave speed is 5.00 m/s then the distance between adjacent wave crests is _____ meters.

- 15) What is the frequency of a wave that has a speed of 0.4 m/s and a wavelength of 0.020 meter?
- 16) Many wave properties are dependent upon other wave properties. Yet, one wave property is independent of all other wave properties. Which property of a wave is independent of all the others?
- 17) A pendulum makes exactly 40 vibrations in 20.0 s. Its period is _____
- 18) A period of 0.005 seconds would be equivalent to a frequency of _____ Hz.
- 19) True or False?
Doubling the frequency of a wave source (without altering the medium) doubles the speed of the waves.
- 20) If the frequency of a wave is doubled and if the speed remains constant, its wavelength is _____.
a) quartered
b) halved
c) unchanged
d) doubled
- 21) When a pulse reaches a boundary between two different media, it will be:
a) reflected, only
b) transmitted, only
c) partly reflected and partly transmitted
d) neither reflected nor transmitted
- 22) A wave whose speed in a rope is 4.4 m/s enters a second rope. The wavelength changes from 2.0 m to 3.0 m. The wave in the second rope travels at approximately _____

Which rope is more dense?

23) Explain the difference between constructive and destructive interference.

24) What is the most interesting thing you have learned about sound?

25) What is the Doppler Effect? Explain what happens to frequency and apparent frequency.

26) What was your favourite station in the Sound Station Lab?

27) What is one thing you did over spring break where you noticed something connected to some the physics you have learned this year? (i.e. A real life demonstration of a physics principle or idea you learned about at some point this year).